MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2017/2018

PCA0016 – COMPUTER APPLICATIONS AND PROGRAMMING

(June/ March Intake)

16 OCTOBER 2017
2.30 p.m - 4.30 p.m
(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This Question paper consists of **8** pages (excluding cover page) with **3** Sections only.
2. Answer **ALL** questions in **Section A, B** and **C**.
3. Please mark the answers for **Section A** and **Section B** on the **OMR form** provided.
4. Please write the answers for **Section C** in the **Answer Booklet** provided.

SECTION A: MULTIPLE CHOICE [25 MARKS]

Instructions: Answer **ALL** questions in this section. Shade your answers on the **OMR** sheet.

1. Computer literacy, also known as digital literacy, involves having a current knowledge and understanding of _____.
   A. computer programming
   B. computers and their uses
   C. computer repair
   D. all of the above

2. Why Input devices are important?
   A. To display the output
   B. To enable data communication
   C. To process data and instructions
   D. To enter data and instructions into a computer

3. A(n) _____ is a touch-sensitive device, resembling a dry-erase board, that displays the image on a connected computer screen.
   A. flatbed scanner
   B. data projector
   C. interactive whiteboard
   D. video conference

4. A(n) _____, which is an external device that attaches to a mobile computer or device, contains a power connection and provides connection to peripherals; it usually also includes slots for memory cards, optical disk drives, and other devices.
   A. docking station
   B. port replicator
   C. peripheral
   D. expansion bus

5. Touch screens that recognize multiple points of contact at the same time are known as _____.
   A. touch-sensitive pads
   B. multi-touch
   C. graphic tablets
   D. digitizers

6. _____ technology works with specially coated optical disc to etch labels directly on the disc.
   A. SCSI
   B. SATA
   C. LightScribe
   D. LightSaber

Continued...

7. On large companies, tape cartridges are mounted in a separate cabinet called a(n) _____.
   A. Serial Advanced Technology Attachment (SATA)
   B. tape library
   C. tape cartridge
   D. Versatile Multilayer Disc (HD VMD)

8. _____ is the process of dividing the disk into tracks and sectors so that the operating system can store and locate data and information on the disk.
   A. Clustering
   B. Formatting
   C. Dividing
   D. Partitioning

9. The _____ chip, which uses battery power, stores configuration information about the computer.
   A. Basic Input/Output System (BIOS)
   B. Complementary Metal-Oxide Semiconductor (CMOS)
   C. Power –On Self Test (POST)
   D. Random Access Memory (RAM)

10. When you enter search criteria, instead of looking through every file and folder on the storage medium, a search utility looks through the _____ first to find a match.
    A. index
    B. buffer
    C. file manager
    D. driver

11. _____ is a filtering program that attempts to remove spam before it reaches your inbox.
    A. Anti-spam program
    B. Spyware
    C. Web filter
    D. Phising filter

12. Home or small office users easily can set up a network and secure it from hackers with _____.
    A. automatic updates
    B. sleep mode
    C. Windows sidebar
    D. Windows Firewall

13. _____ is a _____ language which enables users to access data in a database.
    A. 3GL, procedural
    B. 3GL, non-procedural
    C. 4GL, procedural
    D. 4GL, non-procedural

Continued...

14. _____ control structure executes instructions in a program one after another.
A. Selection
B. Sequence
C. Repetition
D. Iteration

15. A(n) _____ control structure allows a program to continuously perform the same action as long as certain condition is met.
A. *if-then-else*
B. *case*
C. *do-while*
D. *do-until*

16. Which of the following is/are selection control structure(s)?
I *if-then-else* II *case* III loop
A. I only
B. I & II
C. I, II & III
D. All above

17. Peter wants to write a program by using "*While*" loop. Which of the following is NOT compulsory to be used in "*While*" loop?
A. Condition
B. Increment
C. Statement
D. Variable

18. Which of the following license allows multiple users to access software on a server simultaneously?
A. Network license
B. Multipurpose license
C. Static license
D. Site license

19. A(n) _____ RFID tag does not contain a battery and thus is unable to send signal until the reader activates the tag's antenna.
A. active
B. semi-active
C. passive
D. Battery-Assisted Passive (BAP)

20. The technique of breaking a message into smaller units that are transmitted individually and reassembled at the destination is called _____ switching.
A. segment
B. frame
C. packet
D. block

Continued...

21. Which of the following network standards specify the communication between two devices using short range radio waves at high speed?
A. Bluetooth
B. Infrared Data Association (IrDA)
C. Ultra wideband (UWB)
D. Wireless network

22. Which of the following statement is **TRUE** for MP3 files?
A. It is a multimedia container format.
B. It uses lossless data compression
C. It was designed by the Moving Picture Experts Group (MPEG)
D. It is a video coding format for digital video.

23. Choose the TRUE statement(s) for vector graphic.

I Uses polygon to represent images.
II Position of key points will determine the direction of the line.
III Vector images tend to be smaller than bitmap images.

A. I only
B. I & II
C. I & III
D. I, II & III

24. _____ is a(n) _____ file which broadcast a good quality of music CD files.

A. MIDI, compressed
B. MIDI, uncompressed
C. WAV, compressed
D. WAV, uncompressed

25. Which of the following is an uncompressed audio filename extension?
A. .ape
B. .m4a
C. .wave
D. .wv

Continued...

SECTION B: TRUE OR FALSE [15 MARKS]

Instructions: Shade your answers on the OMR form provided. Shade **A for True** and **B for False.**

26. A desktop computer is a portable personal computer designed to fit on your lap.
27. The leading processor chip manufacturers for personal computers are Microsoft and AMD.
28. One Terabyte (TB) equals approximately 1 trillion bytes.
29. You measure CRT monitor diagonally from one corner to the other.
30. A password is a public combination of characters associated with the user name that allows access to certain computer resources.
31. Application software is used to make business activities more efficient, assists with graphics and multimedia projects.
32. Legal software is a simplified accounting program that helps home users and small office/ home office users balance their check books, pay bills, track investments.
33. Test data is made up by a set of dummy sample data that a program will process once it is in production.
34. A beta is a program that has all of its features and functionality implemented.
35. A wide area network (WAN) can consist of more than two local area networks (LAN) connected together.
36. Client/ server network is a simple network that typically connects fewer than 10 computers that have equal responsibilities and capabilities.
37. Bluetooth requires line-of-sight transmission.
38. There is only one color can be assigned to each pixel of a digital image.
39. Bitmap graphic stores the instructions for drawing an image.
40. Anti-aliasing technique will increase the file size of GIF images.

Continued...

SECTION C: SHORT ANSWER [60 MARKS]

Instructions: Answer **ALL** questions in this section. Write your answers in the Answer Booklet.

QUESTION 1 [20 marks]

(a) There are variety of options for entering data and instructions into a smart phone. List down any FIVE (5) options and briefly explain how they can be used to obtain data and instructions.

[5 marks]

(b) Describe the characteristics of an internal hard disk in terms of capacity, platters, and Read/Write heads.

[6 marks]

(c) List any FIVE (5) application software for home and business communications.

[5 marks]

(d) Explain with an example, on how the operating system and utility programs work with application software.

[4 marks]

Continued...

QUESTION 2 [20 marks]

(a) Describe how animation and video can be different from each other.

[4 marks]

(b) Briefly explain on the technique of converting a natural audio sound (analog) into digital form such that it can be stored in a computer.

[4 marks]

(c) Provide the function of Token Ring network standard. Hence, describe how data move in the network.

[6 marks]

(d) Briefly describe the THREE (3) classifications of a network. [6 marks]

Continued...

QUESTION 3 [20 marks]

(a) Provide FOUR (4) advantages of object-oriented programming (OOP).

[8 marks]

(b) The form in Figure 1 calculates the overtime pay of a worker. The worker is entitled to claim for overtime if he worked more than 160 hours in a month with overtime rate as shown in Table 1. The pay rate of this worker is RM 10. The overtime pay (RM) is calculated by using following equation:

Overtime Pay (RM) = Overtime hours × Overtime Rate × Pay Rate

Worked Hours	Overtime Rate
1 - 160	0
161 - 200	1.5
201 and above	2.5

Table 1

Write a code segment in Visual Basic for the form. Use the control name as labeled. The code segment is to be attached to the **Calculate** button. Your program should check for valid inputs, and shows an error message in case an invalid input has been entered.

Example: If he worked 201 hours, his overtime pay is RM625, calculated as follow:
Overtime Pay (RM) = 40 hours × 1.5 × RM10 + 1 hour × 2.5 × RM10 = RM625

[12 marks]

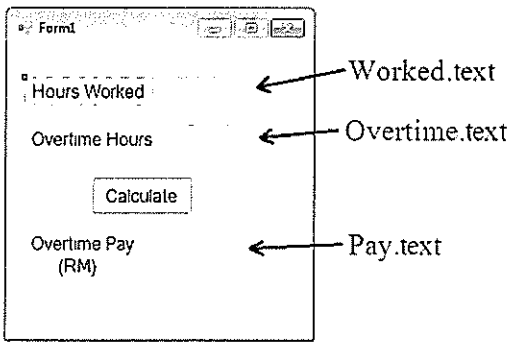

Figure 1

End of Paper